

STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0122394
to discharge to waters of the State of Louisiana.
AI No.: 143785 / Activity No.: PER20060001

THE APPLICANT IS: Bayou Teche Water Works, Inc.
Bayou Teche Water Works Treatment Plant
702 Coteau Holmes Road
Loreauville, Louisiana 70552

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Linda Gauthier

DATE PREPARED: January 16, 2007

1. PERMIT STATUS

- A. NPDES permit - NPDES permit effective date: NA
NPDES permit expiration date: NA
EPA has not retained enforcement authority.
- B. LWDPS permit – NA
LWDPS permit effective date: NA
LWDPS permit expiration date: NA
- C. Date Application Received: September 21, 2006

2. FACILITY INFORMATION

A. FACILITY TYPE/ACTIVITY – potable water treatment plant

The Bayou Teche Water Works, Inc. has constructed and is operating a potable water treatment facility in Loreauville, Iberia Parish. Source water is from ground water wells. The raw water is aerated and chlorinated to oxidize iron and manganese and to dissipate hydrogen sulfide. Water is then filtered through an anthracite filter. Water is transferred to ion exchange softeners then to ground storage tanks. Water is chlorinated and treated with zinc orthophosphate prior to distribution to customers.

The filters are backwashed and the softeners regenerated with a brine solution. The backwash and flows from the filter and softeners are sent to a settling pond.

The facility was inspected on September 5, 2006, in response to a complaint. The facility was discharging backwash water into a drainage ditch that drains to Bayou du

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Portage. The facility has been in existence since 1974 and had never obtained an LPDES permit to discharge.

The initial permit application was submitted for a permit to discharge to Bayou du Portage. After several discussions with the facility's consultant, they have decided to re-route the discharge to Bayou Teche which has a greater assimilative capacity. Copies of email messages from the facility's consultant, Mr. Dominique D. Naomi, P.E., are attached to document the facility's decision to re-route the wastewater discharge to Bayou Teche. The facility will begin construction activities to re-route the discharge pipe to Bayou Teche when they receive an LPDES permit that allows them to discharge to Bayou Teche. They estimate that construction can be completed in less than two weeks.

When the construction project is complete the water from the settling pond that has been discharging to Bayou du Portage will begin discharging to Bayou Teche. See the site visit report dated 12/14/2006 (attached).

In accordance with the attached memo (from Baker to Gauthier, dated October 31, 2006) the harmonic mean of 626 CFS, the 7Q10 value of 114 CFS for Bayou Teche, the chloride standard of 80 mg/l, and the facility flow of 0.169 MGD were used in the spreadsheet (attached) to calculate whether a water quality based chloride limit is needed in the permit. It is estimated that 169,000 GPD will be discharged from the settling pond.

The existing facility includes an office building with sanitary facilities connected to a septic tank. The septic tank discharges to a field that absorbs all wastewater; therefore, the permit does not include an outfall for treated sanitary wastewater.

B. FEE RATE

1. Fee Rating Facility Type: minor
2. Complexity Type: I
3. Wastewater Type: III
4. SIC code: 4941

C. LOCATION - 702 Coteau Holmes Road, Loreauville, Iberia Parish
Latitude +30° 04' 52", Longitude -91° 44' 29"

3. **OUTFALL INFORMATION**

Outfall 001

Discharge Type: Iron filter and softener backwash wastewater

Treatment: settling pond

Location: at the point of discharge from the settling pond prior to mixing with other waters

Flow: 169,000 GPD

Discharge Route: via pipe to Bayou Teche

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NOTE: This facility does not require storm water permit coverage because it does not discharge regulated storm water. The facility's SIC code, 4941, is not listed in the storm water regulations at LAC 33:IX.2341.B.14.a-k and therefore the storm water runoff from the site is not classified as regulated industrial storm water.

4. RECEIVING WATERS

STREAM – Outfall 001 – to Bayou Teche

HARMONIC MEAN – 626 cfs (see attached October 31, 2006, Memorandum from Brian Baker to Linda Gauthier)

BASIN AND SEGMENT – Vermilion Teche Basin – Subsegment 060401

IN STREAM CHLORIDE STANDARD for Bayou Teche – 80 mg/l

DESIGNATED USES -
a. primary contact recreation
b. secondary contact recreation
c. propagation of fish and wildlife

5. EXISTING EFFLUENT LIMITS

NA; facility has never been permitted

6. PROPOSED EFFLUENT LIMITS

BASIS – See rationale below.

7. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

The facility was inspected on September 5, 2006, in response to a complaint. The inspector discovered that the facility backwashes zeolite filters to produce potable water. The facility did not have an LPDES permit to discharge backwash water from a settling pond to waters of the state.

B. DMR Review/Excursions

NA; facility has never been permitted

8. ENDANGERED SPECIES

The receiving waterbodies and proposed discharge are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of

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the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

9. 303 (d) LISTED WATERBODIES

Subsegment 060401, Bayou Teche, is not listed on LDEQ's Final 2004 303(d) list as impaired. However, subsegment 060401 was previously listed as impaired for organic enrichment/low DO, pathogen indicators, suspended solids/turbidity/siltation, and turbidity, for which the below TMDL's have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDL's and/or water quality studies. The LDEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for subsegment 060401:

TMDL for Oxygen Demanding Nutrients

Seasonal TMDLs have been established for the Summer Season and the Winter Season for CBOD₅ and NH₃-N. The TMDLs only apply to certain dischargers who were included in the seasonal models. This permit is for discharges from a potable water treatment plant which does not discharge nutrients. The Water Treatment Plant does not have a sanitary discharge and it has been determined that no activities at the facility will contribute to the addition of nutrients to the system which has been identified causing the dissolved oxygen impairment of the water body.

TMDL for TSS, Turbidity & Siltation

The TMDL document states that "Given that there is no criterion for TSS in the Louisiana water quality standards and there there is a moderate to strong relationship between turbidity and TSS as evidenced by the correlation coefficients shown in Table 3, a listing under both parameters is considered here to be duplicative. ... EPA believes that since this duplicity occurs regularly it supports the belief that these duplicate listings were likely attributable to different ways of expressing the same concern of water impairment by different individuals charged with preparing 305(b) reports, 303(d) lists, or 319 assessments." In this TMDL, TSS was used as an indicator for siltation or bottom deposits resulting from inorganic sediment loads.

The TMDL only addresses TSS from the landform contribution of TSS/sediment and does not address the insignificant point source contribution. The point sources are minor contributors and discharges of organic suspended solids from point sources are already addressed by LDEQ through their permitting of point sources to maintain water quality standards. Therefore, the LPDES permit limitations for TSS are sufficient to protect the water body from a source which is considered by the TMDL document to be an insignificant point source contribution.

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TMDL for Fecal Coliform

The TMDL states that Louisiana's water quality standards for protection of the primary contact recreation use and the secondary contact recreation use are adequate to protect the water body; "therefore, there will be no change in the permit requirements based upon a wasteload allocation resulting from this TMDL." This facility does not discharge sanitary wastewater, therefore, the TMDL for fecal coliform does not apply to this facility.

TMDL for Carbofuran

The TMDL is based on EPA developed numeric targets appropriate for freshwater (0.13 ug/l) and marine (0.23 ug/l) environments. It states that "no introduction of carbofuran, which causes local concentrations to be greater than the numeric target, will be authorized. Ambient monitoring for carbofuran will be conducted for three years to obtain additional data. At the end of three years, the data will be analyzed to determine compliance with the numeric target for freshwater and marine environments." This facility will not be a source of carbofuran; therefore its operation should not have any impact on the carbofuran concentration in the water body or on future development of TMDLs for this broad spectrum carbamate pesticide.

10. HISTORIC SITES

The discharge is from an existing facility that plans to reroute its outfall location, which is considered an expansion on undisturbed soils. Therefore, there could be potential effects to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" consultation with the Louisiana State Historic Preservation Officer is required. The facility representative has been instructed of this requirement and has initiated consultation.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
Office of Environmental Services Public Notice Mailing List

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Rationale for Water Treatment Plant

1. **Outfall 001** – iron filter backwash and softener backwash wastewater

<u>Pollutant</u>	<u>Limitation*</u>	<u>Reference</u>
	Mo. Avg: Daily Max (mg/l)	
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
Chlorides	---: Report	Similar discharges** (BPJ)
Total Recoverable Iron	---: Report	Similar discharges** (BPJ)
Clarifying Agents Used	---: Report	Similar discharges** (BPJ)
TSS	30: 45 mg/l	Similar discharges** (BPJ)
pH	6.0 - 9.0 su	Similar discharges** (BPJ)

Treatment: settling pond

***Monitoring Frequency:** When discharging, once per quarter for Chlorides and Total Recoverable Iron; once per month for Flow, Clarifying Agents, TSS, and pH at the point of discharge into Bayou Teche prior to mixing with other waters.

****Limits Justification:** For all parameters except Chlorides, limits and monitoring frequencies are based on the general permit for potable water treatment plants (LAG380000) effective on January 1, 2005, raw water from ground water sources. A water quality screen (attached) was performed to calculate a water quality based limit for chlorides. However, the results of the screen indicate that a water quality based limit is not needed for chlorides. A chloride "Report" requirement is included due to its presence and use at the facility.

The receiving waterway (directly to Bayou Teche) is listed by name in the Numerical Criteria and Designated Use Table (LAC 33:IX.1123 Table 3); therefore, the in-stream chloride standard is 80 mg/l (LAC 33:IX.1113.C.2).

Receiving stream flow was established by the engineering support group at 114 cfs 7Q10 and 626 cfs harmonic mean. (See attached MEMORANDUM 10/31/2006, Brian Baker to Linda Gauthier.) The outfall is directly into Bayou Teche, where there is considerable flow and substantial long-term mixing potential.

The harmonic mean value of 626 cfs was used for calculating the permit limitations for chloride discharges to Bayou Teche in accordance with LAC 33:IX.1115.C.8.

A harmonic mean value of 626 cfs was used in the calculations to determine whether water quality based limitations are needed for chlorides. The calculation yielded a value of 315,813 mg/l (daily maximum). It was determined that a water quality based permit limitation is not necessary to maintain the in-stream standard of 80 mg/l which was established to protect of the use of the water body as primary and secondary contact recreation and fish and wildlife propagation.

Note: The Potable Water Treatment Plant General Permit is not appropriate for this facility because the facility treats the raw water by means of a zeolite ion exchange in the softening process. The zeolite is recharged using a sodium chloride solution which produces a high chloride concentration in the wastewater. Therefore a facility specific permit is required to determine if a water quality based permit limit for discharges of chlorides into Bayou Teche is necessary.

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* Based on current guidance for new permits discharging into a waterbody listed on the Court Ordered 303(d) list.

BPJ Best Professional Judgment
GPD Gallons per Day
su Standard Units

NOTE

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

Storm Water Pollution Prevention Plan (SWP3) Requirement

Discharges from this facility are not classified as industrial storm water per LAC 33:IX.2341.B.14. Therefore, the Storm Water Pollution Prevention Plan (SWP3) requirement is not included in this permit..

However, per LAC 33:IX.903.B, all above ground storage tanks with a capacity of 660 gallons for an individual container or 1320 for multiple containers, must have secondary containment and a Spill Prevention and Control Plan.